Selecting Species as Drivers of Landscape-scale Conservation

U.S. Fish & Wildlife Service

Conserving the Nature of America

Session Objectives

Encourage FEEDBACK and INVOLVEMENT in exploring and understanding:

- CONCEPTS associated with "species selection"
- CHALLENGES associated with "species selection"
- APPLICATIONS of "species selection"
- SURROGATE SPECIES as a form of "species selection"

Conservation Objectives

- *SHC is driving us to take a broader, landscape approach to conservation*
- *Relies on an adaptive management framework to inform decisions about where, how, and how much is needed to achieve biological outcomes*
- *Objective - Characterize and maintain functional landscapes capable of supporting self-sustaining fish, wildlife, and plant populations.*

A Daunting Responsibility

Responsibility for

myriad species/resources

Unrealistic to:

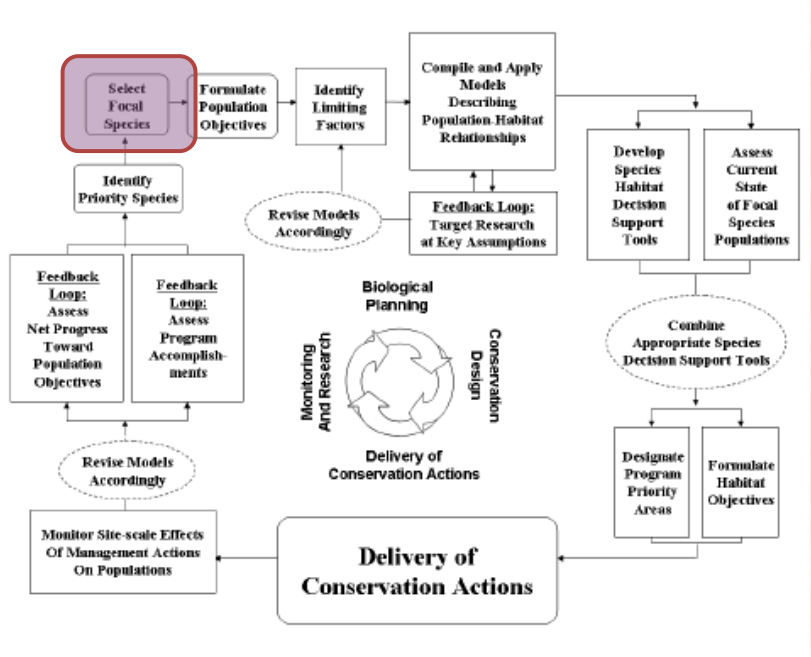
set population objectives,

translate these to habitat objectives,

and evaluate and monitor

every aspect of a functional landscape

Conservation of landscapes capable of sustaining all species is impractical deliver habitat conservation specifically for, on a species-by-species basis



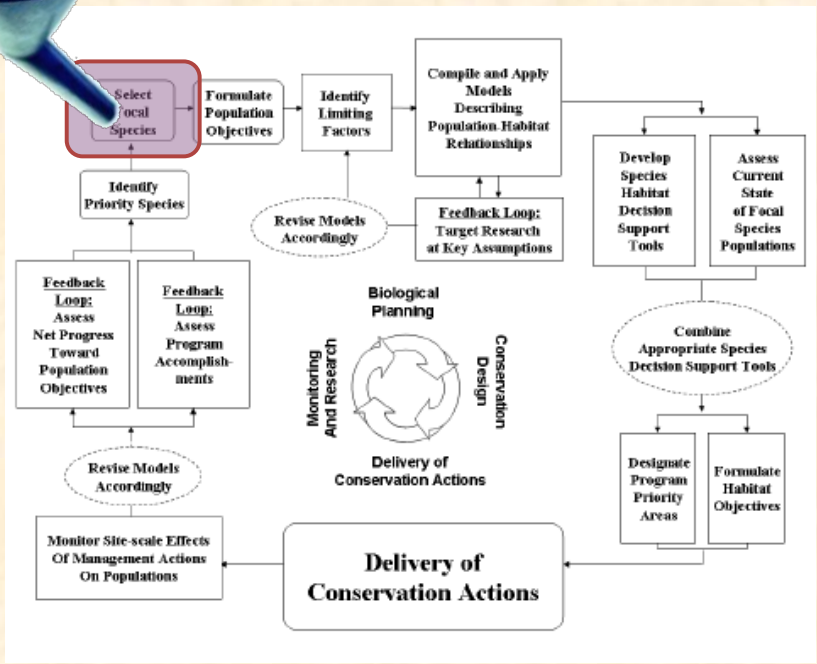
How Can We Begin to Focus?

. . . in ways that best preserve our broad responsibilities to many species?

We all focus to some degree already!

How do YOU do it?

What do you consider?



Selecting Species
- Inherent Challenges -

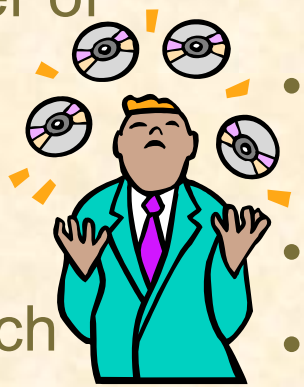
Requires Consideration of:

- Objective(s)
- Scope & Scale
- Selection Criteria
- Assumptions, Uncertainties, Limitations, Risks
- Implications to Decision Making

Priority vs. Surrogate Species
- Concepts -

Priority Species

- Emphasize a subset based on any number of criteria
- Implies relative rank/ importance
- Exclusionary approach
- 1:1 species benefits
- Any broader benefits implied/assumed



Surrogate Species

- Emphasize as many species as possible
- Not intended to imply relative rank/importance
- Inclusionary approach
- 1:many intended species benefits
- Broader species benefits explicitly stated, evaluated

Priority vs Surrogate Species
- Basis & examples -

Priority Species

- Conservation status & vulnerability
- Economically important
- Culturally important
- Program specific
- Organization specific
- E.g., Spotlight Species, Birds of Conservation Concern, ESA listed, etc

Surrogate Species

- Ability to represent other species or aspects of the environment.
- e.g., Umbrella, Keystone, Engineering, Indicator, Foundation, etc.

Surrogate Species Approaches

Variety of Specific Approaches:

Umbrella, Indicator, Keystone, Focal, Representative . . .

- Suitability of any particular surrogate species concept depends on specific conservation objectives of the application, and relevant geographic scale

Surrogate Species as Priorities?

<u>Efforts</u> to apply and identify surrogate species can be PRIORITIES, but surrogate <u>species per se</u> should not be confused with the traditional context of "priority species."

Should Surrogates Drive Resource Investments?

Like “priority species”, Yes!

Should they drive all investments? No!

If concepts sound, and application successful: investments in surrogates should equate with investments in other species.

The reciprocal should also be true.

Key Surrogate Assumption

Undertaking actions that support conservation objectives for surrogate species in a given area will contribute to supporting the needs of larger sets of species characteristic of the area





What does “Support” Mean?

Sustainability

Viability

Persistence

Desired levels

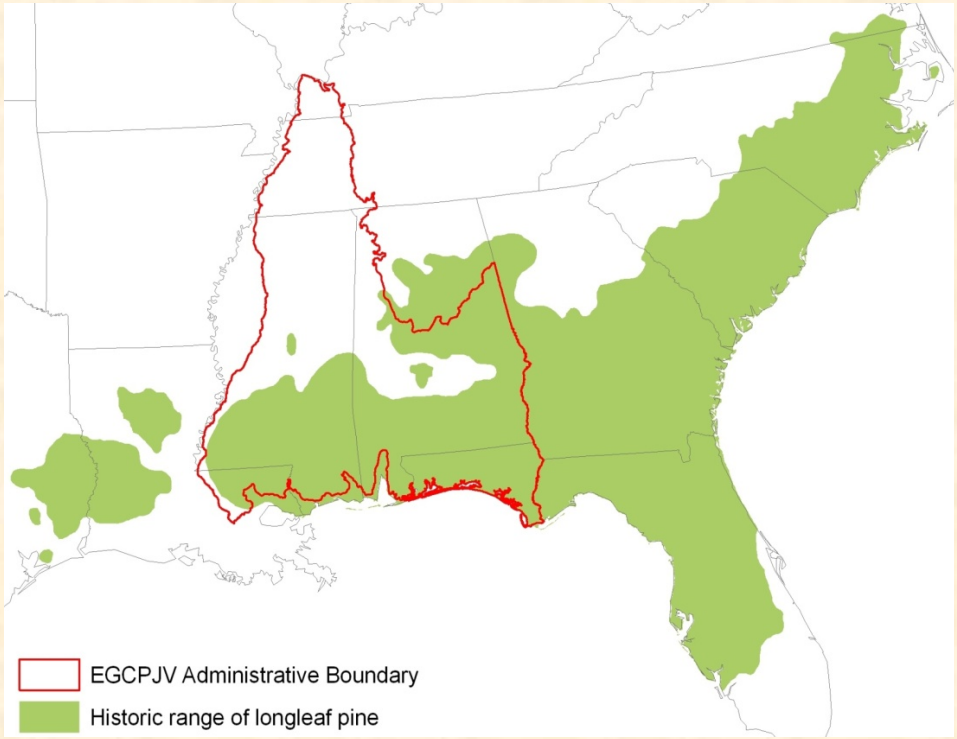
Can not simply mean MATCHING PRESENCE!

Surrogate Species

A LENS through which to consider and approach broad responsibilities for ecosystem conservation

Use of Surrogate Species
East Gulf Coastal Plain

Open Pine Decision Support Tool

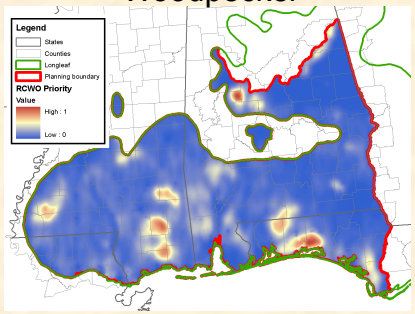


ECGP Surrogates in Open Pine
Red-cockaded Woodpecker
Southeastern American Kestrel
Bachman's Sparrow
Brown-headed Nuthatch
Northern Bobwhite
Henslow's Sparrow

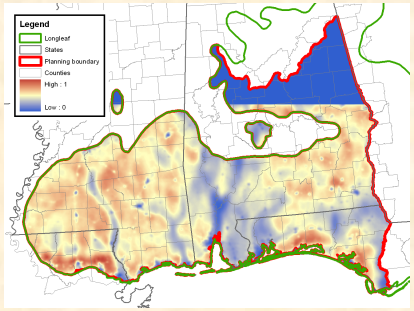
Use of Surrogate Species
East Gulf Coastal Plain

Open Pine Decision Support Tool

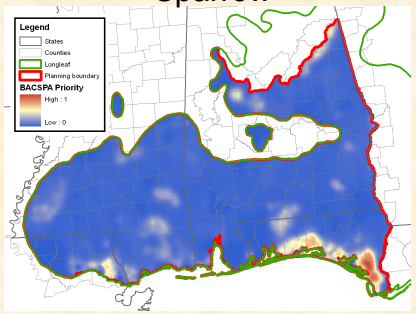
Red-cockaded Woodpecker



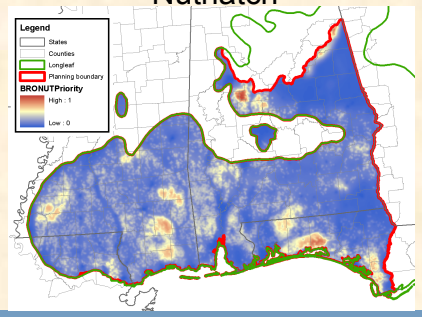
SE American Kestrel



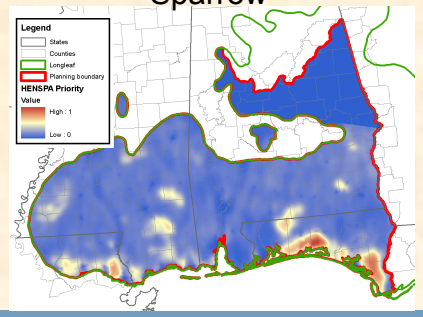
Bachman's Sparrow



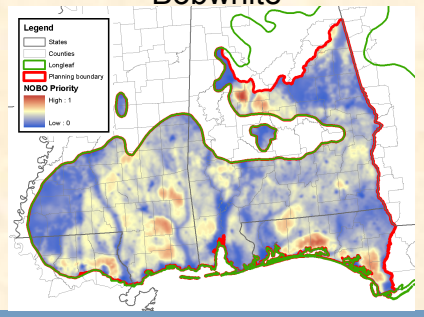
Brown-headed Nuthatch



Henslow's Sparrow



Northern Bobwhite



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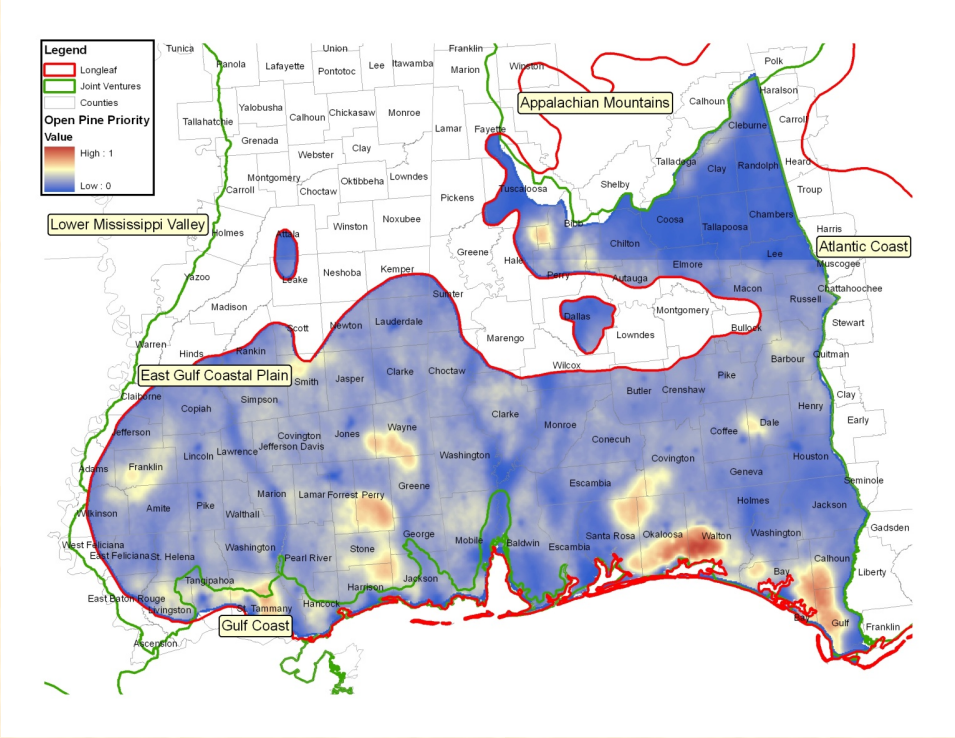
Use of Surrogate Species
Real-World Examples

Open Pine Decision Support Tool (EGCPJV)



Use of Surrogate Species
East Gulf Coastal Plain

- Develop tools that enable more strategic conservation of open pine habitats.
- Guide decisions – where, when, how, and why to undertake conservation actions.
- Comprehensive landscape analysis; application of conservation biology principles (patch size, fire, viability, juxtaposition).
- Maximize conservation benefits for birds and other wildlife.

Other Examples

- Applications not restricted to bird world

THE POINT – all efforts involving use of surrogate species must tie back to effective conservation of “functional landscapes”

Surrogate Species
- Final Thoughts -

- Decision process best conducted within a community of stakeholders
- Finally, keep in mind that you could actually be talking about the same thing, just using different terminology!
- Going it alone or in independent directions won't be effective

Questions?